beclomethasone has been 100 micrograms (μg) (two puffs) three or four times daily. Cromolyn sodium prophylaxis has been widely discussed in many publications. It is important that indications for its use, the method of administration and that it should be used only as a prophylactic agent be clear to both physician and patient. It probably should be reemphasized that the drug has no use in the treatment of wheezing episodes. Finally, it should probably also be mentioned that the methyl xanthines have enjoyed a resurgence as a new appreciation of bioavailability and appropriate dosage becomes more widely known. The most widely accepted oral program for the use of theophylline is now 6 to 10 mg per kg of body weight per dose, given every six hours around the clock.

MARSHALL G. GOLDBERG, MD

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## Reye's Syndrome (Encephalopathy and Fatty Visceral Infiltration)

THIS CLINICOPATHOLOGICAL ENTITY, described by Reye and co-workers in 1963, is now recognized as a common, deadly illness of infants and children. The syndrome consists of a mild prodromal illness, associated with anorexia, and symptoms of an upper respiratory infection. The sudden onset of vomiting is the major sign that a serious disease may be involved, since lethargy, irrational behavior, stupor, convulsions and coma generally follow vomiting within the next 24 hours. On physical examination hyperreflexia is seen, and hypertoxicity is found in a child who may be responsive to voice commands (Stage II coma), unresponsive to all but deep pain stimuli (Stage III) or requires mechanical support for failing respiratory function, variable or weak pulses and hypotension (Stage IV). Generally, most children in Stage IV coma do not recover, whereas persistence of Stage III coma without further deterioration for at least 24 hours is a good prognostic sign.

All children with suspected Reye's syndrome should receive a lumbar puncture (normal results) to rule out infectious causes, and tests for serum glutamic-oxaloacetic transaminase, prothrombin time and blood ammonia. These three measurements of liver function are nearly always abnormal in Reye's syndrome, whereas there is no jaundice or significant hyperbilirubinemia, helping to distinguish this condition from fulminating hepatitis. Hypoglycemia is also present in approximately 50 percent of cases. A percutaneous liver biopsy specimen stained for fat is extremely helpful in establishing the diagnosis.

Treatment is nonspecific, and results difficult to evaluate. Since controlled studies of various regimens are unavailable, individual experience must be a guide to therapy. I believe that supportive treatment (electrolyte and fluid balance, reversal of metabolic acidosis and administration of glucose) is all that is necessary in patients who are in Stage III coma or better. Approximately 80 percent will begin the recovery process within 1 to 2 days after onset of coma. The real problem is a child slipping into Stage IV coma. In such circumstances, exchange blood transfusion is indicated, since 80 percent of such patients will die. It is also helpful to note the *trend* of blood ammonia in Stage III. When ammonia levels are on the rise, deterioration will probably become apparent soon thereafter. Therefore, exchange blood transfusions, perhaps combined with peritoneal dialysis, may be indicated in Stage III coma with rising blood ammonia levels.

The cause of Reye's syndrome is unknown. An association with chicken pox and influenza B has been clearly shown, but neither virus has been directly implicated. It is possible that in a child in whom the syndrome develops in the course of these illnesses an undetected error in ammonia metabolism may exist. Recent studies of hepatic urea cycle enzymes in Reye's syndrome are consistent with this possibility.

M. MICHAEL THALER, MD

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